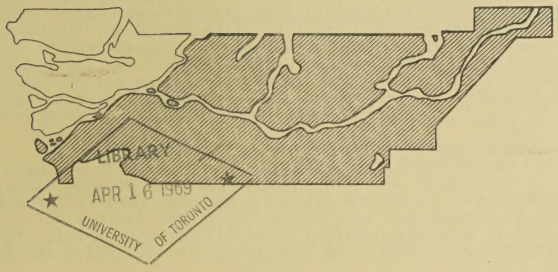
[General publication]
[6-19]

THE VALLEY CO-ORDINATE AND HOUSE NUMBERING SYSTEMS



A MANUAL OF STANDARDS AND PROCEDURES FOR IMPLEMENTATION

FOR USE IN ABBOTSFORD, CHILLIWACK CITY, CHILLIWHACK TWP, DELTA, HARRISON HOT SPRINGS, HOPE, KENT, LANGLEY CITY, LANGLEY TWP, MAPLE RIDGE, MATSQUI, MISSION CITY, MISSION DISTRICT, PITT MEADOWS, SUMAS, SURREY, WHITE ROCK, UNORGANIZED TERRITORY.

[Bibl. C.]

LOWER MAINLAND REGIONAL PLANNING BOARD

V. J. PARKER, EXECUTIVE DIRECTOR

LOWER MAINLAND REGIONAL PLANNING BOARD

426 COLUMBIA STREET • NEW WESTMINSTER, B.C. • TELEPHONE LAkeview 1-4828

OUR FILE: A213

March 25th, 1969

LMRPB Executive Committee,
Member Municipal Councils,
Municipal Officials.

Ladies and Gentlemen:

re: A Manual of Procedures for Implementing the Valley Co-ordinate and House Numbering Systems

For the past three years several members of the LMRPB staff have been working on the development of co-ordinate systems for the Lower Mainland. The objective was to save the Municipalities time and money in their handling of growing volumes of essential information. The results of this work are described in detail in the report Co-ordinate Systems for the Lower Mainland. The purpose of the Manual attached is to describe the basic elements in implementing the Valley Co-ordinate System, the system recommended for the "Valley" area. This system is already being implemented in the Municipalities of Pitt Meadows, Chilliwhack Township and Surrey, and is under consideration in several other municipalities, particularly for assessment work.

Although the larger Co-ordinate System report has drawn upon the efforts of many staff members, this Manual is largely the work of Mr. Erik Karlsen, Regional Geographer, assisted by Bo Olson, who has carefully worked out the system in detail. It is hoped that this work of your Regional Staff will prove of considerable help to those assigned the task of implementing the Valley Co-ordinate System and putting it to maximum use.

Respectfully submitted:

N. Pearson.

N. Pearson,
Assistant Director
(Regional Studies)

V. J. Parker

V.J. Parker,
Executive Director

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1969 LMRPB EXECUTIVE COMMITTEE

With the transfer of the regional planning function from the LMRPB to the four Lower Mainland Regional Districts (Greater Vancouver, Dewdney-Alouette, Central Fraser Valley, and Fraser-Cheam) on March 31, 1969, the affairs of the LMRPB from January 1 to March 31 were placed in the hands of the Executive Committee: D.A.S. Lanskail, Chairman; H.G. Hunt, Vice-Chairman; N.W.E. Cox; J. Francis; G.M.F. McLean; R.A. McMath; S.C. Maplethorp; D.W. Poppy; E.C. Sweeney; D.G. Taylor.

CURRENT LMRPB STAFF

V.J. Parker, Executive Director; N. Pearson and G.C. Harkness, Assistant Directors; D.K. O'Gorman, R.A. Hankin, J.F. Gilmour, R.E. Mann, E. Karlsen, M. Lindeman, Planners; E.J. Hermon, Research Officer; R.O. Thomassen, B.A. Olson, S.J. Bathy, Planning Assistants; E. Dennison, C. Isaak, L. Morrison, Secretarial Staff.

INTRODUCTION

With the growing need in Municipal Halls for quick access to their information resources, the need for an effective "filing system" for this information has become increasingly important. The task of devising such a system is explored in detail in the LMRPB report Co-ordinate Systems for the Lower Mainland. The report recommends the "Valley Co-ordinate System", based on the LMRPB Valley House Numbering System, for the "Valley" area. Capable of either manual or computerized operations, the Valley Co-ordinate System makes use of house addresses for convenient reference. The purpose of this Manual is to provide a standardized guide for the implementation of the Valley Co-ordinate System, and to overcome any problems that might arise with it, or with the Valley House Numbering System. However, it is by no means the complete picture, and further detailed background information should be obtained from the full report.

It should be stressed from the outset that with the use of the Valley House Numbering System as the basis for the Co-ordinate System, the accuracy and consistency with which address and street numbers are assigned is of paramount importance to the usefulness of the Co-ordinate System. The Manual uses diagrams and descriptions as much as possible to provide clear directions to those responsible for its use. Before proceeding with the assignment of addresses and co-ordinate numbers, the user should review the entire Manual to gain familiarity with the many situations that will likely arise.

The Valley House Numbering System

The Valley House Numbering System, a street and address numbering system based on an imaginary "grid" covering Lower Mainland areas south of the Fraser River and east of the Pitt River, is presently in use in the areas shown in Figure 1. Using 8 grid lines per mile, an east-west "Avenue" grid runs from "0 Avenue" at the International Boundary to about "224 Avenue" along the northern limits of the Region. Likewise, a north-south "Street" grid runs from "0 Street" at the western boundary of Richmond to about "670 Street" immediately east of Hope.

Each grid line marks off a "100 block" within which house addresses are assigned on the basis of their location.

FIGURE 1 — AREAS PRESENTLY USING THE VALLEY HOUSE NUMBERING SYSTEM

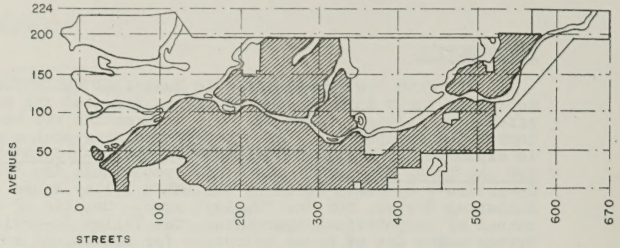


FIGURE 2 — A TYPICAL ADDRESS IN THE VALLEY HOUSE NUMBERING SYSTEM

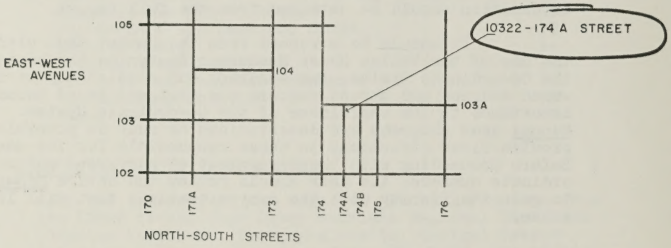
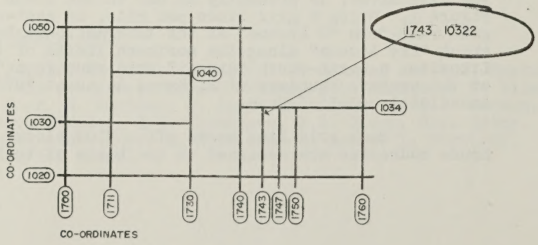


FIGURE 3 — CO-ORDINATES AND CO-ORDINATE REFERENCE FOR AREA IN FIGURE 2



Most house addresses consist of five digits, the first three† being derived from the "100 block" in which it is located, and the last two being determined by the location of the house within the "100 block". "Odd" numbers are reserved for the north and west sides of the streets and avenues, "even" numbers for the south and east sides. This address number and its street or avenue name or number" will thus locate any parcel or house address in the "Valley" area. For example, a typical address might be 10322-174A Street, indicating a location on the east side of 174A Street near where 103 Avenue would fall, whether or not that Avenue actually exists. (See Figure 2). By using such a grid with its spatial regularity, final addresses can be assigned on the basis of location before the ultimate street pattern is defined by development.

The Valley Co-ordinate System

The Valley Co-ordinate System is derived from the Valley House Numbering System by taking the street numbering grid and using it as a co-ordinate grid, supplemented by actual house numbers to give a complete co-ordinate reference.

The block line numbers of the house numbering grid are converted to four-digit co-ordinate numbers by the addition of a final digit to specify location more accurately. For example, 172 Street has a zero added to obtain the co-ordinate number 1720. Streets falling between block lines use this fourth digit to define the actual location of the street between the full block lines. For 174A Street in Figure 2, the co-ordinate number is 1743 as shown in Figure 3. The final digit (3) locates the street between the block line co-ordinates 1740 and 1750.

Supplementing this co-ordinate number with the actual house number completes the "co-ordinate reference" for a given house or property. Thus, a property located at 10322-174A Street (as in Figure 2) would carry the 9-digit co-ordinate reference 1743 10322 (see Figure 3). On this basis, unique numbers can be assigned to each property in the Valley area so that no two properties will have the same co-ordinate reference.**

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†Three digits are reserved for street and avenue numbers, although they may not all be used. For example a house referenced to 8th Avenue would require only one digit.

*Some municipalities assign a letter to streets which fall between block lines, while other municipalities name rather than number their streets. A reference number can nevertheless be assigned to each street.

**It should be noted that in the Municipalities of Delta, Surrey, and Kent there are "Streets" and "Avenues" bearing identical numbers, so there is an obvious need to differentiate between Streets and Avenues in these areas. However, this is a simple matter concerning these Municipalities only, and need not be discussed here.

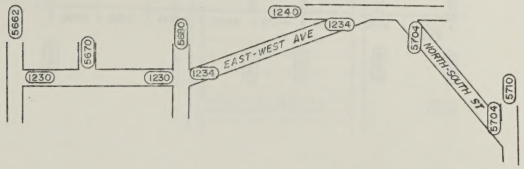
Since almost all of the information and routine administration handled in a Municipal Hall relates to individual properties, the co-ordinate reference system can offer many shortcuts. Co-ordinate references can easily replace roll numbers or legal descriptions, and since most residents know their address (easily converted to the co-ordinate reference), there can be substantial savings in clerical time and effort. Placed in numerical order, information filed according to the co-ordinate reference system is readily accessible. The system has the added advantage of being readily used for either manual or automated operations.

ROADS AND CO-ORDINATE NUMBERS

Before proceeding with any numbering, the user should familiarize himself with the street pattern in his municipality. The LMRPB 1":1000' maps provide a useful reference for this initial perspective, and they can also serve as summary sheets to show the co-ordinate grid and co-ordinate numbers for established streets and avenues.

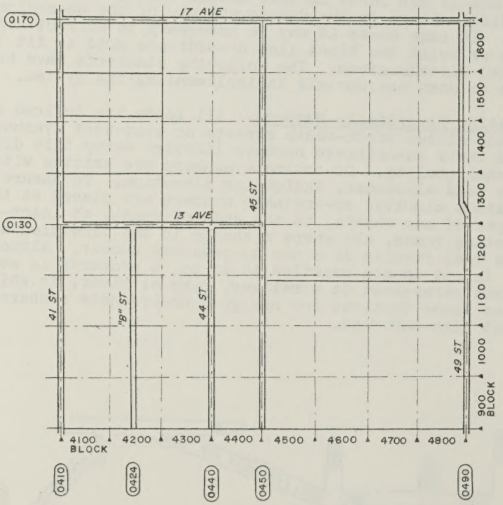
The co-ordinate numbers and references are best determined and recorded on the LMRPB 1":200' and 1":300' Development Maps. These maps show complete up-to-date street patterns, subdivision and lot-by-lot development. Established addresses should be carefully checked, for deviations from the standards set forth in this manual will give rise to major difficulties in the subsequent use of the co-ordinate system. In some cases it may be necessary to correct address numbers or twist the block line co-ordinate grid to fit the addresses already given. The following standards have been adopted as most appropriate in implementing the system.

1. Placing Co-ordinate Numbers. All roads are defined as being either north-south streets or east-west avenues, and their co-ordinate numbers likewise carry this directional quality. Co-ordinate numbers are written within the road allowance, indicating direction. To assure maximum clarity, co-ordinate numbers are placed at the edges of map sheets, at the ends of roads, at intersecting roads, and where a change in the direction of the road results in a new co-ordinate number. Although it is not common practice to do so, a property is sometimes referenced to a railway, dyke or river, in which case these features are assigned co-ordinate numbers just like any road.

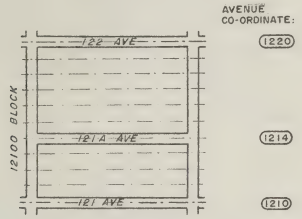


2. The Co-ordinate Grid is framed within the square mile survey pattern found throughout most of the Fraser Valley. Using this square mile grid as a guide, "100 blocks" are created for each 1/8 mile, as shown below. Co-ordinate numbers for roads falling on the block line grid are determined simply by adding a "0" to the street or avenue number, and co-ordinates ending in "0" are reserved for such roads.

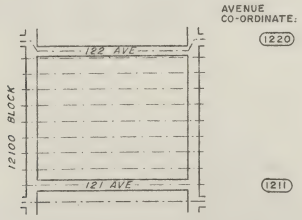
200 SERIES - SHOWING BLOCKLINE LAYOUT



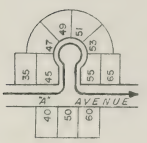
3. Roads Falling Between Block Lines — Co-ordinate numbers are determined by the relative location of the road between block lines. This location is designated by the fourth digit of the co-ordinate number.

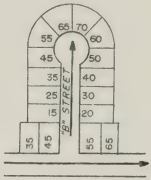


4. Roads Not on Block Lines — Where a continuous road falls less than a "stone's throw" from the block line on which it would normally fall, the block line grid is "modified" slightly in the interests of convenience, as shown below. (The grid lines are normally 660 feet apart.)



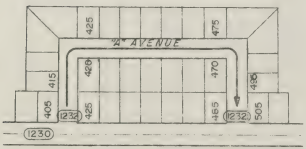
5. Cul-de-Sacs and Dead End Roads. "No exit" roads are generally assigned co-ordinate numbers in the same fashion as any other roads, except that where a short cul-de-sac gives access to only three or four lots and is incapable of future extension, it is treated as part of the road onto which it opens.



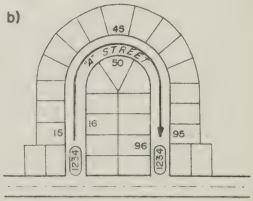


6. Looping Roads. A road which "leaves and returns" to a more important road is assigned a co-ordinate number on the basis of the direction of its greatest length. Thus in (a), the looping road is treated as an east-west avenue, and in (b) as a north-south street. Where the looping road is particularly long, or extends beyond a "100 block", it may be necessary to assign co-ordinates and house numbers on a more involved basis, as for example in (c).

a)



b)



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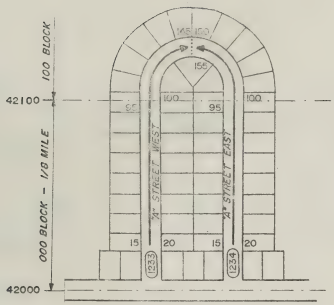
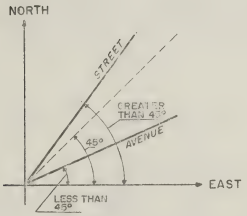
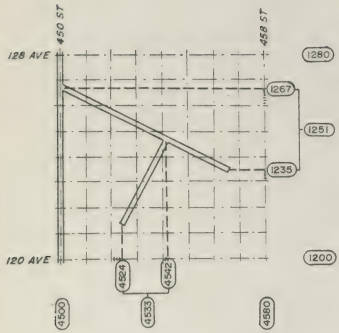
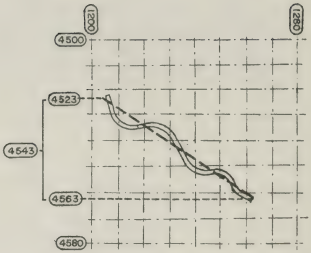


7. Diagonal and Curved Roads. A diagonal or curved road is designated as either a street or avenue, depending upon its dominant direction, as shown below.

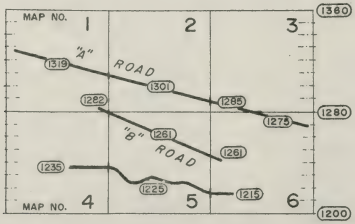


In assigning co-ordinate numbers, the "average" of the co-ordinates for the north-south or east-west limits of the diagonal or curved road is used, as shown below. Co-ordinates ending in "0" are reserved for roads falling on the grid lines, and are not used for diagonals.

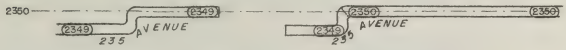




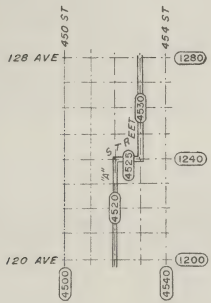
Also, where a diagonal or curved road extends across more than one reference map (1":200' or 1":300'), a new co-ordinate is given for each map, unless its length on the neighbouring map is very short, as illustrated below. Care must be taken to avoid assigning the same co-ordinate number both to a diagonal and to a regular north-south or east-west road.



8. Jogs. Roads with small jogs are assigned only one co-ordinate number, except that where the roads are particularly long, separate numbers may be assigned to each segment.



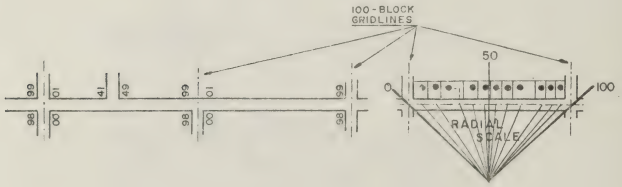
Roads with major jogs have separate co-ordinate numbers for each segment. Where the road has a single name, the jogging segment can be treated as a diagonal that is assumed to run in the same direction as the rest of the road.



ADDRESSES AND CO-ORDINATE REFERENCES

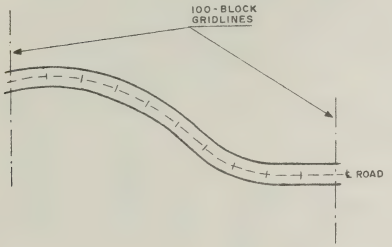
Once block lines and co-ordinate numbers for roads are established, addresses for buildings and vacant properties are determined according to their location within the "100 blocks". These house addresses, when combined with the co-ordinate number for the road on which they are located, become the co-ordinate references for individual properties. Procedures for determining these numbers are described below.

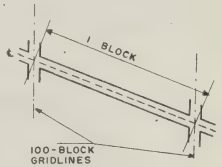
1. Basic Procedure. Basically, address numbers are assigned according to their location between the "100 block" grid lines, regardless of intersecting roads, as shown below left. In this manner final addresses can be assigned to a building even though the development of buildings or the subdivision pattern may be only in the very early stages. The "100 block" grid lines are 1/8 mile or 660 feet apart, and provide 100 possible address numbers for each 1/8 mile. With two sides to each road, this means an individual number is available for each 13-foot segment on each side of the road. Even numbers are reserved for the south and east sides of roads, and odd numbers for the north and west sides. Numbers are assigned at the lot frontage directly in front of the building or to the centre point of each vacant lot (or to the point of access to the lot in unusual cases)* on as strict a proportional basis as possible. A ruler or radial scale is usually used to ensure accuracy.



*See pages 17 and 18.

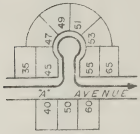
2. Diagonal and Curved Roads. For assigning addresses along diagonal and curved roads, the procedure is basically the same as in #1 above, except that there are fewer numbers to spread over a greater length of road. It is most important that address numbers be assigned at right angles to the road, and that the numbers be properly spaced out between the 100 block grid lines.





3. Cul-de-Sacs and Dead End Roads. A short cul-de-sac treated as part of the road onto which it opens is numbered accordingly, as shown in (a) below. Longer cul-de-sacs and dead end roads are treated like any other road.

a)



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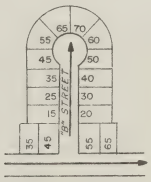
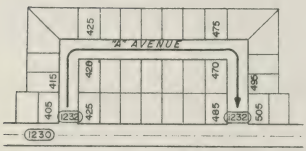


4. Looping Roads. A looping road treated as a single avenue or street is numbered like a curving road, with numbers assigned in relation to total length including as many "100 blocks" as are traversed, as shown in (a) and (b). A looping road treated as more than one street or avenue is treated as two separate roads, with numbers likewise assigned in relation to total length including as many 100 blocks as are traversed, as in (c).

a)



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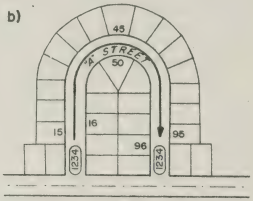

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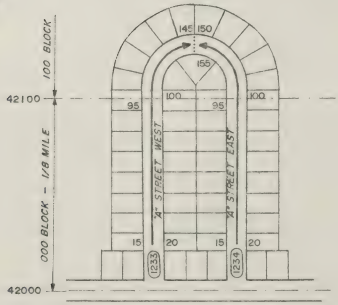
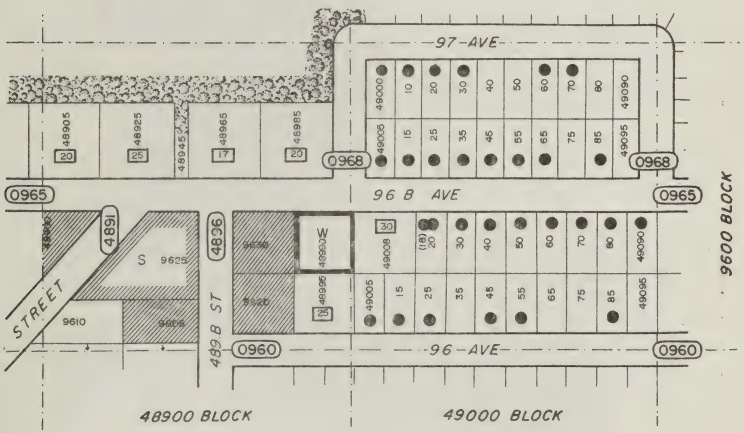
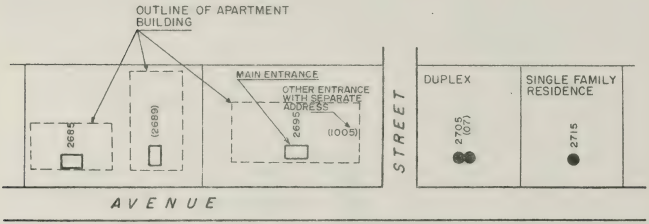


5. Placing Address Numbers. The entire five-digit address number for each building or property is written perpendicular to the road to which the property is referenced, directly behind the building or point to which it refers. The 1":200' or 1":300' development maps are likely to be used, in which case the address numbers are readily combined with the land use symbols used on those maps.* The map symbol should be located to indicate the centre of the building involved. If a property is situated partly on two or more maps, the address should be indicated as usual on the map where it falls, but a small arrow should be drawn on the other map indicating the direction of the map where the address is given.

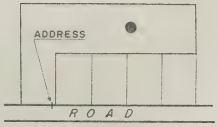


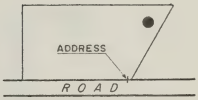
*See page 19 for Key to Land Use Symbols.

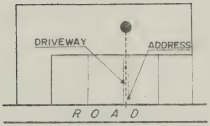
6. One Lot, One Reference Number. Although a lot may have more than one address, such as for a duplex, individual stores , or an apartment complex, it must have only one reference number. The address selected for the reference number should be that of the owner, the caretaker, or the major building. All other addresses should be given in brackets.



7. Odd Building Locations. Odd situations will arise from time to time, and several can be considered here. Where a building and its point of access are on separate lots, address assignment uses the point where the driveway intersects the road, as in (a). Odd shaped lots, as in (b) and (c), use the point closest to the building as a reference, or the location of the driveway where there is one. Where a driveway to a building lies in an easement or simply goes through another lot, the driveway is located on the map and used as the reference point, as in (d). Where a building is located at the end of a road that could be subsequently extended, assign an address as if the road were extended, as in (e).





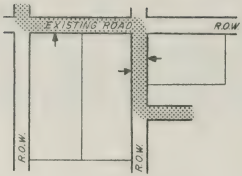


8. Vacant Lots. Addresses are essential for each vacant lot if the co-ordinate system is to be put to fullest use — for example, for assessment purposes. Basically, the address assigned is that of the centre point of the frontage, regardless of lot size or shape. Where the lot fronts on more than one road, the frontage on the most important road is used, as in (a); where the roads are of equal importance, the longest frontage is selected; and where only part of the roads are developed, the frontage on the developed road is used, as in (b). For lots at the end of a road, the address is assigned to the side with the major portion of the lot, as in (c). Irregular lots with limited buildable areas, such as along the waterfront, have the address assigned at the centre of the buildable portion, as in (d). A "locked-in" lot without frontage on a road is assigned an address on a "dummy" street located in the most likely future location, as in (e), where it is located on a trail, dyke, railway, or river, it is referenced to these features which can be assigned co-ordinate numbers.

a)


"MAJOR" ROAD
"MINOR" ROAD

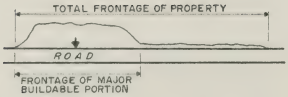
b)


EXISTING ROAD
ROW
R.O.W.
R.O.W.

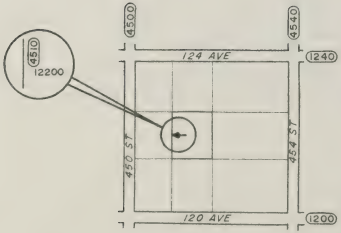
c)


ROAD

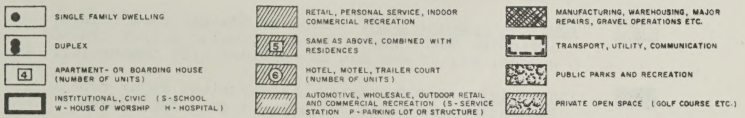
d)


TOTAL FRONTAGE OF PROPERTY
ROAD
FRONTAGE OF MAJOR BUILDABLE PORTION

e)


4500
4540
4510
12200
124 AVE
1240
450 ST
454 ST
120 AVE
1200

KEY TO LAND USE SYMBOLS



DETAILED DESCRIPTION

RESIDENTIAL

one-family: single-family house

two-family: duplex, or house with one suite

multi-family: apartment, boarding house, or house with suites; number indicates total number of suites or living units.

COMMERCIAL AND INDUSTRIAL

commercial 1: retail store, office, personal service, commercial recreation, etc., where 1/2 or more of commercial activity is within a building.

commercial 2: retail store, commercial recreation, etc., where over 1/2 of commercial activity is outside a building or where over 1/2 of the developed area is for parking; automotive sales and service; wholesale outlets; S indicates service station; P indicates parking area or building.

commercial 1 - residential: commercial 1 combined with residential; number indicates total number of residential units.

commercial 2 - residential: commercial 2 combined with residential; number indicates total number of residential units.

tourist accommodation: hotel; number indicates total number of hotel units; may or may not be combined with commercial.

tourist accommodation: motel or trailer park; number indicates total number of motel units and/or trailer spaces; may or may not be combined with commercial.

industrial: manufacturing; warehousing; major repair facilities; resource extraction; port facilities associated with these.

OTHER

vacant, agricultural, or forestry

transport and utility: indicate if bus station, airport, dock, railway station, ferry slip, waterworks, power station, sewage plant, etc.

institutional: indicate if school (S), place of worship (W), hospital (H), cemetery (CEM), community hall (HALL), etc.

park: public open space,golf course, park, zoo, square, etc., public swimming pool (POOL), etc.

private open space: private golf course, country club, bird sanctuary, hunting club, etc.